

Mr. Wayne Spary  
Rose-Hulman Institute of Technology  
5500 Wabash Avenue  
Terre Haute, IN 47803

Re: 167-11689-00014  
First Administrative Amendment to  
FESOP 167-5933-00014

Dear Mr. Spary:

Rose-Hulman Institute of Technology was issued a permit on April 27, 1998 for a boiler based heating system for a private school. A letter requesting the addition of a 3.5 MMBtu per hour natural gas fired boiler for the new residence hall was received on October 28, 1999. A second letter was received on December 21, 1999 requesting the addition of a 0.52 MMBtu per hour natural gas fired boiler to be installed at Myers Hall. Pursuant to the provisions of 326 IAC 2-8-10 the permit is hereby administratively amended as follows:

The addition of two (2) natural gas fired boilers rated at 3.5 and 0.52 MMBtu per hour heat input to be located in the new residence hall and Myers Hall, respectively. The boilers potential to emit is at an insignificant level. The additions are covered under A.3, Insignificant Activities. Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British Thermal Units per hour are considered insignificant. The total increase in potential emissions from the two (2) boilers are less than 2.0 tons per year of any criteria pollutant, therefore, the existing FESOP limits will be unchanged.

That pursuant to 326 IAC 6-2-4 (emission limitations), the particulate emissions from the two (2) boilers shall not exceed 0.398 pounds of PM per million British Thermal Units heat input.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact, at (812) 462-3433 extension 15.

Sincerely,

George M. Needham  
Director  
Vigo County Air Pollution Control

Attachments

DKW

cc: Mindy Hahn - IDEM  
Winter Bottum - IDEM

**PART 70 OPERATING PERMIT**

**OFFICE OF AIR MANAGEMENT**  
**and**  
**VIGO COUNTY AIR POLLUTION CONTROL**

**Rose-Hulman Institute of Technology**  
**5500 Wabash Avenue**  
**Terre Haute, Indiana 47803**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F167-5933-00014	
Issued by: George M. Needham, Director Vigo County Air Pollution Control	Issuance Date: April 27, 1998
First Administrative Amendment F167-11689	Page(s) Affected: none (additions covered under A3, Insignificant Activities number 1)

Issued by:  
George M. Needham, Director  
Vigo County Air Pollution Control

Issuance Date:

## Appendix A: Emissions Calculations

Page 1

### Natural Gas Combustion Only

MM BTU/HR <100

### Small Industrial Boiler

Company Name: Rose-Hulman Institute of Technology

Address City IN Zip: 5500 Wabash Ave, Terre Haute, IN 47803

AA: 167-11689-00014

Plt ID: 167-00014

Reviewer: Darren Woodward

Date: December 21, 1999

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

3.5

30.7

Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	SO2 0.6	NOx 100.0 **see below	VOC 5.5	CO 84.0
Potential Emission in tons/yr	0.029	0.117	0.009	1.53	0.084	1.29

\*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

## Appendix A: Emissions Calculations

Page 2

### Natural Gas Combustion Only

MM BTU/HR <100

### Small Industrial Boiler

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Address City IN Zip: 5500 Wabash Ave, Terre Haute, IN 47803

AA: 167-11689-00014

Plt ID: 167-00014

Reviewer: Darren Woodward

Date: December 21, 1999

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

0.5

4.6

Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	SO2 0.6	NOx 100.0 **see below	VOC 5.5	CO 84.0
Potential Emission in tons/yr	0.004	0.017	0.001	0.228	0.013	0.191

\*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

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Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

**Appendix A: Emissions Calculations**

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**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Small Industrial Boiler**

**Company Name: Rose-Hulman Institute of Technology**

**Address City IN Zip: 5500 Wabash Ave, Terre Haute, IN 47803**

**AA: 167-11689-00014**

**Plt ID: 167-00014**

**Reviewer: Darren Woodward**

**Date: January 6, 2000**

326 IAC 6-2-4 Emission limitations for facilities specified in 326 IAC 6-2-1(c)

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where: Pt = Pounds of particulate matter emitted per million Btu  
(lb/MMBtu) heat input.

$$Pt = \frac{1.09}{(48.05)^{0.26}}$$

Q = Total source maximum operating capacity rating in  
million Btu per hour (MMBtu/hr) heat input.

$$Pt = \frac{0.398 \text{ lbs. PM}}{\text{MMBtu}}$$